

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A production method of core-shell type highly liquid absorbent resin particles comprising:

(1) a first step in which a particle core portion is formed by suspension polymerizing an aqueous solution (e) containing (meth)acrylic acid, a crosslinking agent (c) and an anionic surfactant (d) in an amount of 1 to 10 parts by mass with respect to 100 parts by mass of (meth)acrylic acid in a hydrophobic organic solvent (a) containing a nonionic surfactant (b), the anionic surfactant (d) being represented by the following general formula (I):



wherein, R' represents an alkenyl group having 8 to 30 carbon atoms or a hydroxyalkyl group having 8 to 24 carbon atoms, and M represents an alkaline metal, quaternary ammonium or quaternary amine, and

(2) a second step in which a shell portion that covers the particle core portion is formed by suspension polymerizing an aqueous solution (g) containing a water-soluble vinyl polymer (f), having carboxyl groups and polymerizable unsaturated double bonds and having a number average molecular weight of 500 to 10000, in a suspension obtained in the first step.

2. (Original) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the water-soluble vinyl polymer (f) is polyacrylic acid having polymerizable unsaturated double bonds.

3. (Canceled).

4. (Original) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the nonionic surfactant (b) has an HLB value of 4 to 13.

5. (Original) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the nonionic surfactant (b) is at least one type selected from the group consisting of polyoxyalkylene sorbitan fatty acid ester having an HLB value of 9 to 11, polyoxyalkylene glycerin fatty acid ester having an HLB value of 9 to 10, and phosphate triester having an HLB value of 7 to 13.

6. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the second step is a step in which the aqueous solution (g) containing a water-soluble vinyl polymer (f) is added into the suspension obtained in the first step to perform suspension polymerization.

7. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the crosslinking agent (c) is a monomer having two or more radical polymerizable unsaturated double bonds (c1) or a compound having two or more functional groups that react with carboxyl groups.

8. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the anionic surfactant (d) is used within the range of 1 to 10 parts by mass with respect to 100 parts by mass of the aforementioned (meth)acrylic acid.

9. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein a hydrophobic organic solvent included in the hydrophobic organic solvent (a) is at least one selected from the group consisting of n-pentane, n-hexane, n-heptane, n-octane, cyclohexane, methylcyclohexane, and benzene, toluene and xylene.

10. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the nonionic surfactant is at least one selected from the group consisting of polyoxyalkylene sorbitan fatty acid esters, polyoxyalkylene sorbitol fatty acid esters, polyoxyalkylene glycerin fatty acid esters, sorbitan fatty acid esters, sucrose fatty acid esters, glycerin fatty acid esters, polyoxyalkylene alkyl ethers, phosphate triesters and block copolymers of polyoxyethylene and polyoxypropylene.

11. (Canceled)

12. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein the crosslinking agent (c) is at least one selected from the group consisting of (meth)acrylic acid esters, tri(meth)acrylic acid esters, bis-acrylamides and polyvalent allyl compounds.

13. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, wherein water-soluble vinyl polymer (f) has an acid value within the range of 130 to 800; 1 to 3 of the polymerizable unsaturated double bonds contained by water-soluble vinyl polymer (f) are present in water-soluble vinyl polymer (f); and the amount of water-soluble vinyl polymer (f) is within the range of 3 to 10 parts by mass with respect to 100 parts by mass of the aforementioned (meth)acrylic acid.

14. (Previously Presented) The production method of core-shell type highly liquid absorbent resin particles according to claim 1, further comprising a third step in which the combination of the particle core portion and the shell portion that covers the core portion is dried by removing water and hydrophobic organic solvent (a).

15. (New) The production method of core-shell type highly liquid absorbent resin particles according to claim 14, wherein the combination of the particle core portion and the shell portion obtained after drying is a core-shell type highly liquid absorbent resin particle, which is white.